U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
Division of Forest Insect Research

FOREST INSECT CONDITIONS
FOREST RECREATIONAL AREAS - SOUTHERN CALIFORNIA
MARCH 1957

The period of March 20 to 27 was spent by Ralph C. Hall of the California Forest and Range Experiment Station, James L. Averell and Thomas H. Harris of the Regional Office in an inspection of some of the more important forest insect problems on the Los Padres, San Bernardino, and Cleveland National Forests. Robert C. Janes, Ranger, and Joseph Miller of the Mt. Pinos District participated in the inspection of the Mt. Pinos District of the Los Padres; S. E. Jarvi, Supervisor, Charles A. Yates of the Supervisor's office, Ranger Oliver L. Holmes of the Mill Creek District, W. R. Tikkala of the Arrowhead District, E. E. Ball, Supervisor, J. D. Beebe, and S. Ewanoski of the Sequoia, H. R. Offord, J. W. Kimmey, and R. K. LeBarron of the California Station participated in an inspection of the Barton Flats area of the San Bernardino. J. C. Gilman, Ranger, Jim Ruppelt and Reed Marks of the San Jacinto District, and Paul Sischo of the California State Division of Forestry participated in the inspection of the San Jacinto District of the San Bernardino; R. S. McBride of the Supervisor's office and E. G. Heilman of the Descanso District participated in an inspection of the Laguna, Julian, Pine Hills, and Sutherland Dam areas on the Cleveland. In addition, Hall spent March 27 with Prof. George F. Edmunds from the University of Utah, inspecting the black pine leaf scale problem in the Crestline-Arrowhead area.

The forest insect situation in southern California is critical in practically all areas inspected where no previous control work has been conducted. The general impression of the author is that losses are at their highest level in recent years. Some of the critical areas are on the Mt. Pinos District on the Los Padres, the Laguna, and the Julian areas on the Cleveland, and portions of the San Jacinto District on the San Bernardino. All insect species common to these areas are epidemic, but the California flatheaded borer is highly epidemic in all areas.

One factor which is believed to be a major contributing influence in the high loss picture is the continuing low level of precipitation in all of southern California. In the last decade precipitation has been below normal in all but two years--1951 and 1952. For the past four years for the four weather stations at Cuyamaca, Julian, Idyllwild, and Lake Arrowhead, the precipitation in terms of the normal has averaged 38.5% for 1953, 94.1% for 1954, 65.7% for 1955, and 46.3% for 1956, and for the 4-year period 61.1%. For the calendar year of 1956 precipitation was below normal for every month except January and April, with zero precipitation for the month of March. (Table 1)

Table 1.--1956-57 Precipitation data - Idyllwild Ranger Station

Month	1956 Precipitation	1956 Departure from normal	1957 Precipitation	1957 Departure from normal
	Inches	Inches	Inches	Inches
Jan.	7.94	3.31+	8.81	4.18
Feb.	1.22	3.76-	1.30	3.68-
Mar.	0	6.63-	2.47	4.16-
April	2.47	.68+		
May	.57	.50-	Total 12.58	3.66-
June	0	.05-		
July	.35	.12-	Percent of normal	77.5%
Aug.	0	1.48-		
Sept.	0	.72-		
Oct.	.09	.76-		
Nov.	0	2.48-		
Dec.	1.13	1.77-		
Total	13.77	14.28-		
Percent of normal		49.1%		

The forest insect situation in specific areas is discussed below:

Los Padres National Forest, Mt. Pinos District

On October 28, 1956 Hall and Averell made an inspection of the Mt. Pinos District and reported[1/] several important outbreaks on this District. These included heavy infestations, generally of the California flatheaded borer in combination with bark beetles, in Jeffrey pine on the Frazier Mountain and Mill Potrero burns, and highly epidemic infestation outside the burned area in Mill Potrero, epidemic in the Y.M.C.A. organizational camp area, the portion of the Grade Valley area not covered by sanitation-salvage, and on Alamo Mountain. On our recent inspection we did not see the Frazier Mountain or Alamo areas, but in all other areas the situation has definitely worsened. Abundant new fades were observed in the Mill Potrero, Y.M.C.A. camp

1/ Hall, Ralph C., and Wickman, Boyd E. Forest Insect Conditions, Forest Recreational Areas - Southern California, October-November 1956. Appraisal Survey. CF&RES, Berkeley, Calif. December 5, 1956.

area, and Grade Valley. The estimate of current fades, for example, in Mill Potrero were 270 infested trees in October. The March estimate is approximately 700 infested trees in the same area. The same relative situation now exists on all the other areas visited. Cuddy Valley was practically free of fades in October and now infested groups are commonly scattered throughout the Valley.

The Grade Valley area where sanitation-salvage was conducted was relatively free of infestation, while the untreated portion had heavy loss. The risk marking was checked on the untreated portion and the concensus of the group was that a very good job of marking was being done.

Discussion

Direct control through felling and spraying the infested trees with ethylene dibromide is now under way on a portion of the District on Forest Service ownership. Control on private land and on the two burns is planned as soon as cooperative agreements are consummated and when plans for salvage are completed. If it is impossible to arrange for salvage on the two burns, it will be necessary to treat the merchantable as well as the unmerchantable trees, which will mean a much larger control job than if salvage were possible. All control should be completed prior to June 1, when emergence of adult flatheads is expected to start.

San Bernardino National Forest

Three areas on the San Bernardino National Forest were visited during the inspection. These included Barton Flats, San Jacinto, and Arrowhead-Crestline.

Barton Flats

The one bright spot in this recent inspection was the appearance of the Barton Flats area where sanitation-salvage was carried on three years ago. Only three infested trees were observed in a traverse of the area by available roads. This period of epidemic infestations throughout southern California has been a real test of the effectiveness of sanitation-salvage treatment.

San Jacinto District

There has been a considerable increase in infested trees throughout the whole San Jacinto District in 1956. However, the greatest increase has occurred in areas where no treating was done last year. Two of these areas are the May Valley and the southeast section of Garner Valley. In the former area the western pine beetle in Coulter pine and flatheads in Jeffrey pine are highly epidemic. In the latter area flatheads in Jeffrey pine are highly epidemic, with an estimated 150 trees on about 80 acres. An inspection was made of some of the

treated areas and it was found that a very thorough job was being done. One Coulter pine in such an area was found to be infested with the mountain pine beetle. This is only the second record at the Laboratory of the mountain pine beetle in Coulter pine.

Arrowhead-Cresline Area

The Arrowhead-Crestline area was inspected on March 23 to check on the needle dieback problem and again on March 27 with Prof. Edmunds to check on the black pine leaf scale. The needle dieback problem is becoming progressively more serious, with many trees now dead that were seriously affected one year ago. Many of these weakened trees have been attacked by the western pine beetle, which accounts to a large degree for an increase in the number of infested trees in the area. Data were not available as to the number of trees treated to date, but the indications are that they will exceed the number for the previous season.

Discussion

The needle dieback problem has recently been investigated in a general way by plant pathologists, plant physiologists, silviculturists, and others. The current thinking seems to lead to the conclusion that the problem may be tied in with some air-borne toxicant. Some work is now under way at Riverside to attempt to induce needle dieback symptoms by laboratory methods.

The control problem on the San Jacinto District now becomes one of assigning priorities to areas for treatment, because of lack of funds. It appears now that the whole San Jacinto District cannot be treated with available funds. Therefore, it is suggested that the areas of greatest recreation value and use be completely treated and that the outlying areas in Garner Valley be treated only if funds permit.

Cleveland National Forest

The Laguna area is the principal problem area on the Cleveland at the present time. Losses are epidemic throughout the whole Laguna area. From general impressions, the current infestation is the heaviest in recent years. Losses from flatheads in Jeffrey pine and western pine beetle in Coulter pine are particularly acute in many of the high-use campground and picnic areas.

Discussion

In view of the critical losses occurring in the campground and picnic areas, it was agreed that control would be carried on in such areas for this year, since funds are not available to treat the whole area. Control should be completed prior to June 1.

Cuyamaca Rancho State Park

The Superintendent of the Cuyamaca Rancho State Park was contacted regarding the insect problems in the Park. He indicated that their control crew had treated a few more trees than the previous season but he did not have his records completed for the 1956 season. Only one infested tree was observed along the main highway traversing the Park. From present indications, the experimental flathead-control program in Jeffrey pine is successfuly keeping this infestation in check. Arrangements were made with the Park Superintendent to conduct a training session for Park personnel sometime about mid-May. Some of the Forest Service personnel from the Descanso District will also participate.

Julian

From general impressions, the infestation of Ips and the western pine beetle in Coulter pine in the Julian area is the heaviest for many years. One area in particular in the northern portion of the area where spring logging was carried on in 1956 has the heaviest concentration of insect-killed trees which the author has ever seen.

Summary and Conclusion

One of the most important findings revealed by this survey is that forest insect damage in southern California generally is being held in check wherever control measures are being applied. Sanitation-salvage and maintenance control at Barton Flats, and maintenance control on the Arrowhead-Crestline and Cuyamaca Rancho projects, all seem to be fairly effective. Most of the heavy damage is taking place on areas where no control work is being conducted. Losses at San Jacinto are probably higher than they would be if control were on a year-around rather than a seasonal basis. Experience in other parts of southern California, notably in the Arrowhead-Crestline zone, has shown that a better job of protection can be expected when control is on a maintenance basis. It is suggested that consideration be given to establishing such a program on the San Jacinto area.

An effective protection program is predicated on early detection and prompt suppression of insect outbreaks. This fact notwithstanding, the Station has not received a single detection report of insect damage in southern California since late in August 1956. It is not surprising, therefore, that "blowups" should occur in areas like Julian and Mt. Laguna, where little or nothing is being done to hold insects in check. The findings of this survey point to the fact that both detection and control need to be materially strengthened in such areas if further losses are to be prevented.

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Ralph C. Hall
Entomologist

Agriculture--Forest Service, Berkeley, Calif.